CLAIMS

1.-10. (Canceled)

11. (New) A method for managing files in a file management system comprising a plurality of user terminals and a file management apparatus for managing file transfer actions among said plurality of user terminals, said method comprising the following steps which are performed by said file management apparatus:

upon entry of a file to be made open from at least one of said plurality of user terminals, assigning a unique ID to identify said file, and storing a combination of said unique ID of said file and a sub-ID to identify a delivery action of said file in the past into a file transfer actions database,

wherein, after said combination is stored into said file transfer actions database, if it is found that a transfer of said file was performed at least between two user terminals among said plurality of user terminals, said file management apparatus stores and manages a sub-ID of a transmitting-end user terminal and a sub-ID of a receiving-end user terminal, on said file transfer actions database.

12. (New) The method for managing files according to claim 11, further comprising the following step performed by said file management apparatus:

storing history information about the transfer actions of said file, which has been stored into said file transfer actions database, into said file transfer actions database, said history information corresponding to said unique ID,

wherein said history information comprises at least one of the following:

DSMDB-2573583v01

a user ID to identify a user that requested the file transfer action,

an activity to indicate the type of the file transfer action,

a file name assigned to the file,

a time and a date when the file transfer action was performed,

contents information to describe contents of the file, and

a file type to indicate the type of the file.

13. (New) A method for visualizing file transfer actions, based on the file transfer actions managed by the method for managing files as recited in claim 11, said method comprising the following steps which are performed by said file management apparatus:

accepting a visualization request to visualize transfer actions of a file;

retrieving data corresponding to file transfer actions having a unique ID of said file specified by said visualization request, from said file transfer actions database;

creating a flow model of a tree structure in which a tree is formed by connecting file transfer action data with the sub-ID of said transmitting-end user terminal to file transfer action data with the sub-ID of said receiving-end user terminal, the root of the tree being data corresponding to the initial file load action; and

presenting said flow model.

14. (New) The method for visualizing file transfer actions according to claim 13, wherein said file management apparatus, in presenting said flow model, presents a directed graph with nodes of sub-IDS from said file transfer actions data, a link between two nodes being

represented by an arrow-line indicating the direction from the source to the destination of file transfer.

15. (New) The method for visualizing file transfer actions according to claim 13, wherein said file management apparatus presents said flow model as a time sequence list display in which file transfer actions are arranged in time sequence in which the actions were performed.

16. (New) A method for visualizing file transfer actions, based on the file transfer actions managed by the method for managing files as recited in claim 11, said method comprising the following steps which are performed by said user terminals:

extracting the unique ID of a file whose transfer actions are to be visualized;

retrieving data corresponding to file transfer actions relevant to said unique ID in time sequence, from said file transfer actions database;

creating a flow model from the data, according to the sequence of said file transfer actions in time sequence; and

presenting said flow model.

17. (New) A file management apparatus for managing file transfer actions among a plurality of user terminals, said apparatus being connected to said plurality of user terminals and comprising:

a process management unit for managing file transfer actions by generating management information to manage file transfer actions among said plurality of user terminals; and

a file transfer actions database to store said management information generated by said process management unit,

wherein, upon load of a file from at least one of said plurality of user terminals, said process management unit assigns unique ID to identify a file to said file and stores combination of said unique ID of said file and a sub-ID to identify a delivery action of said file in the past into said file transfer actions database, and wherein,

after said combination is stored into said file transfer actions database, if it is found that a transfer of said file was performed at least between two user terminals among said plurality of user terminals, said process management unit stores and manages combination of a sub-ID of a transmitting-end user terminal and a sub-ID of a receiving-end user terminal, on said file transfer actions database.

18. (New) The file management apparatus according to claim 17, wherein said process management unit creates history information about the transfer actions of said file, which has been stored into said file transfer actions database, said history information corresponding to said unique ID,

wherein said process management unit stores said history information into said file transfer actions database, and

wherein said history information comprises at least one of the following:

a user ID to identify a user that requested the file transfer action,

an activity to indicate the type of the file transfer action,

a file name assigned to the file,

a time and a date when the file transfer action was performed,

contents information to describe contents of the file, and

5

a file type to indicate the type of the file.

19. (New) The file management apparatus according to claim 18, wherein said process management unit, upon accepting a visualization request to visualize transfer actions of a file, retrieves data corresponding to file transfer actions having a unique ID of said Ale specified by said visualization request, from said file transfer actions database, wherein said process management unit creates a flow model of a tree structure in which the tree is formed by connecting file transfer action data with a sub-ID of a transmitting-end user terminal to file transfer action data with a sub-ID of a receiving-end user terminal, the root of the tree being data corresponding to the initial file load action, and wherein said process management unit presents said flow model.

20. (New) The file management apparatus according to claim 18, wherein said process management unit, in presenting said flow model, presents a directed graph with nodes of sub-IDS from said file transfer actions data, a link between two nodes being represented by an arrow-line indicating the direction from the source to the destination of the file transfer.